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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/327,594	06/08/1999	HULYA DEMIRYONT	03897.08139	5631

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EXAMINER

MCNEIL, JENNIFER C

ART UNIT	PAPER NUMBER
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1775

16

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-16

# Office Action Summary

Application No.

09/327,594

Applicant(s)

DEMIRYONT, HULYA

Examiner

Jennifer McNeil

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-7, 10-14, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Gillery (US 4,948,677). Gillery teaches a high-transmittance, low emissivity article including copper containing layers used as primer layers which are placed between metal and metal oxide films. The copper-containing layer may be copper oxide, and is deposited by sputtering (col. 2, lines 5-20; col. 4, lines 29-44; col. 6, lines 12-15). Regarding claims 10-14, other layers included in the article may be zinc stannate, with a thickness of about 340 angstroms (col. 4, lines 50-55; col. 5, lines 5-10). Regarding claims 6 and 7, a soda-lime silica glass substrate is used in the example given in col. 5, lines 1-3.

Claims 1-3, 5, 10-14, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by King (US 3,720,541). King teaches a transparent glass substrate with a coating thereon. The coating comprises a layer of bismuth oxide, a layer of copper oxide (sputtered), and additional layers. The copper oxide layer may be 30-2000 angstroms, and the bismuth may be 50-500 angstroms. The bismuth oxide layer is considered a coloration layer. Regarding the limitation of the coating being thermostable. The copper oxide layer is considered to be thermostable, as well as the rest of the coating in conjunction with

Art Unit: 1775

the copper oxide layer. King teaches heat-treating the coating to 240 degrees Celsius, and it is the position of the examiner that the article would be thermostable to higher temperatures.

Claims 1-14, and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Demiryont (US 6,416,194).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Demiryont teaches a glass substrate with thermostable coating thereon. The thermostable coating comprises a copper oxide layer next to the substrate, and additional layers including NiCr, Ag, and other oxide layers such as tin oxide. The copper oxide may be deposited by sputtering (col. 7, lines 4-10).

Regarding claims 2 and 14, the coloration (copper oxide or tin oxide) layers may be 10-50 nm thick (col. 10, lines 30-40).

Regarding claim 4, see col. 10, lines 32-35.

Regarding claims 5-9, and 17, the coating may be formed on soda-lime-silica glass, and may undergo bending or tempering (col. 7, line 1; col. 11, lines 20-26).

Regarding claims 10-13, and 18, as shown in figure 4, the coating may comprise more than one coloration layer and the coloration layer may comprise  $\text{CuO}_x$ , or  $\text{SnO}_x$ .

Regarding claim 19, the article of Demiryont has all the limitations of the instant claims and therefore would be expected to possess the same characteristics.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 8, 9, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillery (US 4,948,677). Gillery teaches an article having a coating of copper oxide as discussed above, but does not give a specific thickness of the coating, and does not give specific examples of the type of glass on which the coating may be formed. Gillery does teach that the primer layer, which may be made of copper oxide, has a minimal thickness (col. 5, lines 25-30). Considering that the other films in the coating have thicknesses of about 90-430 angstroms, it would have been obvious to one of ordinary skill in the art to keep the thickness of the layers to a minimum to ensure the coating still maintains a high transmittance, and therefore would have a copper oxide coating within the range of 150-2000 angstroms.

Gillery also teaches that the coating may be applied to substrates such as glass, ceramics, and plastics that are not detrimentally affected by the operating conditions of the coating process (sputtering). Gillery's invention is directed toward improving glazed window units. Absent a showing of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to use any glass substrates of the type suitable for windows.

Art Unit: 1775

Claims 6-9, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over King (USD 3,720,541).

King teaches a coated glass substrate as discussed above, but does not give specific examples of the type of glass on which the coating may be formed. King's invention is directed toward improving windscreens. Absent a showing of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to use any glass substrates of the type suitable for windscreens.

King also does not teach that the substrate is bent. Windscreens for vehicles undergo bending treatment for shaping purposes. It would have been obvious to one of ordinary skill in the art to apply the coating of King to a bent glass that is suitable for use as a vehicle windscreen.

### *Response to Arguments*

Applicant's arguments regarding Gillery '677 filed February 27, 2003 have been fully considered but they are not persuasive. Applicant argues that Gillery does not teach a thermostable coating. Gillery teaches a glass substrate with multiple layers thereon, including a sputtered copper oxide. The instant claims refer to a thermostable glazing comprising a thermostable solar coating consisting essentially of sputter deposited copper oxide. Applicant states that the coating of Gillery is not thermostable because upon heat treatment the silver layer would be oxidized and the entire coating characteristics would be altered. The copper oxide layer of Gillery is considered thermostable and is also considered to comprise the glaze coating.

The declaration submitted states that Gillery does not teach a coating that is thermostable at temperatures above 400 degrees Celsius. This argument is not within the scope of the claims. The claims refer to a thermostable coating, with thermostable being defined in the specification as the

Art Unit: 1775

tempering or bending temperature, such as 590-650 degrees Celsius. The claims do not reflect a thermostable coating that is thermostable at a temperature above 400 degrees Celsius. Also, the copper oxide layer of Gillery is considered the coating and is considered to be thermostable.

Applicant has not claimed that the entire substrate including the coating is considered thermostable, or that the glazing coating includes other coatings in addition to the copper oxide layer (regarding claim 1), or that the substrate and coating actually undergo any heat treatment.

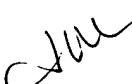
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer McNeil whose telephone number is 703-305-0553. The examiner can normally be reached on Monday through Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 703-308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jennifer McNeil  
Examiner  
Art Unit 1775



JCM  
May 15, 2003